REMARKS

Claims 1-42 are canceled and claims 43-86 are pending.

Claims 44 and 47-50 are withdrawn from consideration. The claims have been amended to recite "endogenously produced" substance instead of "endogenous" substance throughout. Markush groups of claims 46, 47 and 49-51 have been split into separate claims. New claims 52-86 have been added. The amended and new claims are supported throughout the application, e.g., at page 4, lines 28-34; page 11, lines 14-25; and by the original claims, now canceled. No new matter has been added.

Election of Species

Applicants affirm the following election of species: (a) endogenous substance (now "endogenously produced" substance): glycosaminoglycans, and (b) cell surface receptor: transferrin receptor. Claims 43, 45, 46, 51, 68, 69, 71, 77-79 and 86 read on the elected species.

Applicants respectfully request examination of the additional species (claims 44, 47-50, 52-67, 70, 72-76 and 80-85) once a generic claim is deemed allowable.

Objections

The specification has been amended to correct the typographical errors on page 62 and in Table 2, as requested by the Examiner. No new matter has been added.

Claims 45, 46 and 51 are objected to for reciting non-elected species. Claims 46 and 51 have been amended to delete the non-elected species. (And new claims have been added to singly recite the non-elected species.) Claim 45 does not recite non-elected species, but rather is a generic claim.

Therefore, Applicants respectfully request that the objections to the claims be withdrawn.

Rejections Under 35 U.S.C. §112, para. 2

Claims 43 and its dependencies are rejected as indefinite in the recitation of "endogenous substance." The Examiner states that "[it] is not clear from the specification if this excludes or

includes foreign substances (e.g., HIV) found in the extracellular fluid (paragraph bridging pages 4-5)."

This rejection has been met by amending the claims to recite an "endogenously produced" substance rather than an "endogenous" substance. In the specification, the term "endogenously produced substance" is explicitly distinguished from a foreign substance such as a pathogen (of which HIV is an example). See page 4, lines 28-33, which provides:

> The selected substance can be a normally-occurring (endogenously produced) constituent of the blood, such as a nutrient, metabolite, naturally-occurring hormone or lipoprotein, **or** a foreign constituent, such as a pathogen, toxin, environmental contaminant or drug or pharmacologic agent. (Emphasis added.)

In addition, at page 11, lines 14-27, the specification states:

> The chimeric protein has a wide variety of other clinical or therapeutic applications, such as in reducing the circulating levels of normal or abnormal endogenously produced metabolites or nutrients (e.g. acetylated low density lipoprotein, apolipoprotein E4, tumor necrosis factor a, transforming growth factor β, a cytokine, an immunoglobulin, a hormone, glucose, a bile salt, a glycolipid [such as glucocerebroside which accumulates in patients with Gaucher disease or ceramidetrihexoside which accumulates in patients with Fabry disease], or a glycosaminoglycan [such as those that accumulate in patients with Hunter, Hurler, or Sly syndromes]) **or** of foreign substances (e.g., pathogens, environmental contaminants, or alcohol). (Emphasis added.)

As can be seen in the above-quoted passages, the specification makes it clear that an "endogenously produced substance" as recited in the claims excludes a foreign pathogen such as HIV since "foreign substances (e.g., pathogens...)" are listed as alternative to endogenous substances (note the use of the alternative "or" conjunction). Given that numerous other examples are given in the specification of both endogenous substances and foreign substances, the scope and meaning of the term "endogenous substance" would be clear to one of ordinary skill in the art.

Rejections Under 35 U.S.C. §102

Claims 43 and 51 are rejected as anticipated by Shin et al. This rejection is respectfully traversed. Shin et al. discloses a fusion of a transferrin receptor-binding portion of transferrin and an antibody binding domain specific for the hapten dansyl, a synthetic fluorescent moiety

used in Shin to assay the ability of the Shin fusion protein to target an antigen to the brain. Dansyl is clearly not an endogenously produced substance as defined in the specification. As such, Shin does not disclose a functional ligand-binding domain that binds an endogenously produced substance, as recited in the claims. Therefore, Shin does not anticipate the present claims.

Claims 43 and 51 are rejected as anticipated by Capon et al. This rejection is respectfully traversed. Capon discloses a CD4-IgG chimeric protein that binds the HIV glycoprotein gp120 and an Fc receptor on a cell surface. As discussed above, HIV is a pathogen, and is therefore not encompassed by the term "endogenously produced substance" as required by the claims. Nor is there any indication in Capon that a transferrin receptor on a cell transports the chimeric protein and the HIV into the cell, as required by the claims. Accordingly, the claims are novel over Capon.

In view of the foregoing, Applicants respectfully request that the rejection be withdrawn.

Enclosed is a Petition for Extension of Time along with the required fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

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